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MASTEROBJECTS, INC.

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

MASTEROBJECTS, INC.,
 	
                    Plaintiff,
 	
          v.
 	
AMAZON.COM, INC.,
 	
                    Defendant.
	Case No. 3:20-cv-08103-WHA
	
	PLAINTIFF MASTEROBJECTS, INC.'S OPENING CLAIM CONSTRUCTION BRIEF
	
	Judge: Hon. William Alsup
	Courtroom: 12, 19th Floor
	
	Complaint Filed: May 5, 2020
	Trial Date: May 9, 2022

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1

2

3

TABLE OF CONTENTS

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

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28

TABLE OF AUTHORITIES

I.   **INTRODUCTION.**

The parties' claims construction disputes reduce to one common point: Amazon consistently reads embodiment specific detail into the claims themselves. Its construction expert explicitly so admitted. It is quintessentially wrong to use embodiment detail to constrain the claims. More, in importing embodiment curlicue detail into the claims, Amazon perforce ignores the plain language of the claims themselves. Amazon so inverts the construction heuristic: embodiment details become binding, while the plain language of the claims becomes irrelevant.

II.   **MARK SMIT AND HIS INVENTION.**

MasterObjects was founded by Mark Smit, a named inventor on each patent-in-suit. In the spring of 2000, Mr. Smit was a young computer scientist working on data retrieval problems. He found the technology trying and slow. He believed he could do better. In July 2000, Mr. Smit conceived of a new paradigm for searching large data sets, *e.g.*, the Web. He envisioned a system where a client and a server system communicated asynchronously to display instant results, rather than waiting for the user to finish typing and press "enter." His invention permitted the server system to send to the client search content even as the user typed.

This represented a profound change in search technology. In the old search model, this communication was "synchronous," i.e., the server system would sit idle until the user hit submit, whereupon the server system would do its work and then return the information to the client. As the client worked, the server system waited; as the server system communicated, the client waited.

To break this "request-response" loop, Mr. Smit realized that the client and server needed to communicate "asynchronously," *i.e.*, the client and the server system needed to be free to communicate with each other even as a user typed.

Mr. Smit also envisioned that the server system could cache (store) previous queries and search results. With asynchronous communication, such a query and results cache permitted the system to quickly associate a few characters of a new query with a preexisting version of the same

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query and corresponding content.

MasterObjects filed its first patent application in August 2001; it later issued as U.S. Patent No. 8,112,529 ("'529 Patent"). All other MasterObjects patents descend from the '529 Patent.

MasterObjects developed and sold a commercial embodiment of the invention, "QuestObjects," and had customers such as Hewlett-Packard, Siemens, and Princeton University.

III.   THE PATENTS AND SPECIFICATION.

The patents-in-suit are U.S. Patent Nos.: (1) 9,760,628 (the "'628 Patent"); (2) 10,394,866 (the "'866 Patent"); and (3) 10,311,073 (the "'073 Patent").

As charted below, MasterObjects' patents all descend from the '529 Patent:
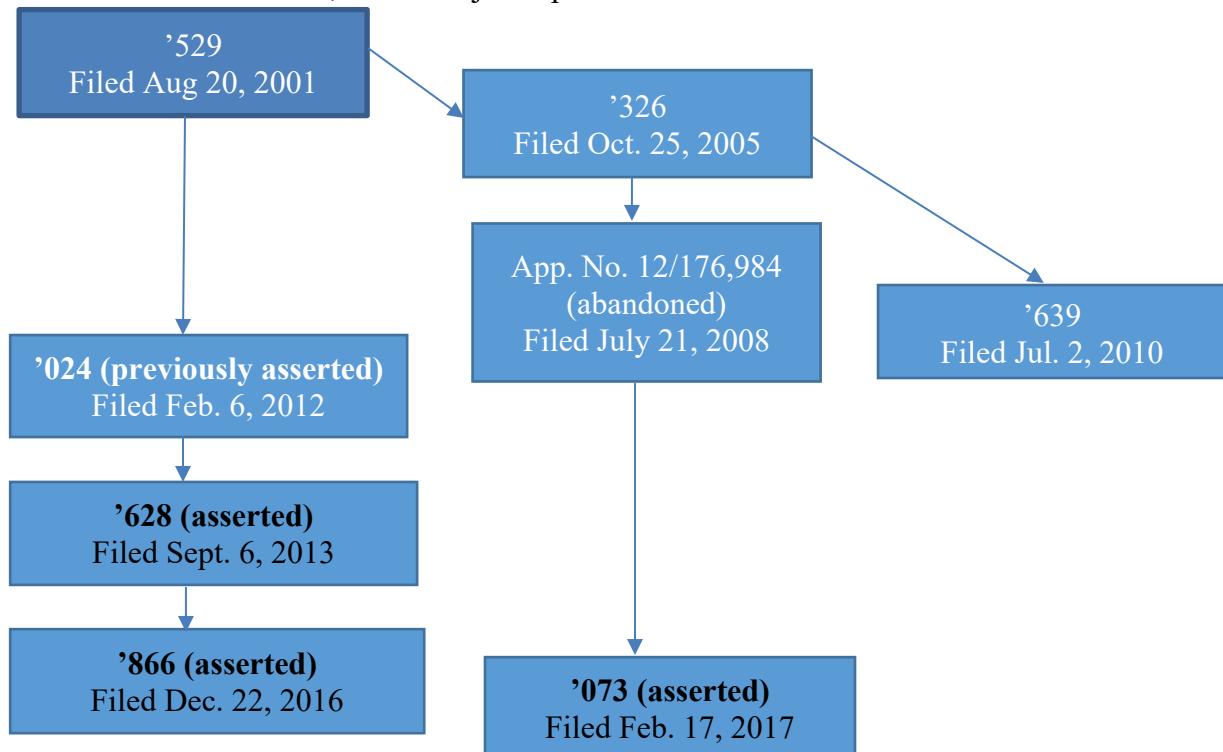
All MasterObjects' patents share at least the original '529 Patent's specification, as all other MasterObjects' patents, including the '073, incorporate that specification.[1]

The Specification's "Detailed Description" begins with a general description of the invention: a system that enables instant search by using "client-server asynchronous" communications to provide to

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[1] The '529, '024, '866, and '628 Patent specifications are virtually identical. Unless otherwise noted, all specification cites are to the '628 Patent (the "Specification").

1   the client search content even as the user typed a lengthening search query. *See*, *e.g.,* Ex. A ('628 Patent)

2   at 8:42-49.

3   The Specification makes explicit that the detailed QuestObjects system is one exemplary

4   embodiment. *See id*. at 7:24-26 ("In the detailed description below, the present invention is described

5   with reference to a particular embodiment named QuestObjects"); *see also id*. at Fig. 2-8 (all are

6   embodiment specific, e.g.: "FIG 2 shows a schematic of a system in accordance with an embodiment of

7   the invention") & 7:20-32. The QuestObjects' long "Glossary" is described as embodiment specific.

8   *See, e.g.*, *id*. at 9:66-10:6 ("an embodiment of the present invention… QuestObjects …. Other terms used

9   to describe the QuestObjects system … can be found in the glossary…."). After a long description of the

10   QuestObjects system, the Specification says "[t]he foregoing description of preferred embodiments of

11   the present invention has been provided for the purpose of illustration and description. It is not intended

12   to be exhaustive or limit the invention to the precise forms disclosed." *Id.* at 32:15-18. Finally, just

13   before the claims, the Specification, again, says that the embodiment is exemplary, and that the claims

14   define the scope of the invention:

15

16   The embodiments were chosen and described in order to best explain the principles of
            the invention and its practical application, thereby enabling others skilled in the art to
17   understand the invention for various embodiments and with various modifications that
            are suited to the particular use contemplated. It is intended that the scope of the
18   invention be defined by the following claims and other equivalence.

19   *Id.* at 32:20-27.

20

21   **IV.   AMAZON'S CLAIM CONSTRUCTION EXPERT.**

22   Amazon retained Dr. Donald Turnbull as a claims expert. Dr. Turnbull submitted three

23   separate expert reports.

24   MasterObjects deposed Dr. Turnbull on January 12, 2022. In his deposition, Dr. Turnbull

25   admitted that he understood that the QuestObjects system was just one enabling embodiment. He

26   then conceded that he was reading embodiment specific detail into the claims themselves, a

27   manifestly improper thing to do. To quote Dr. Turnbull:

28

On QuestObjects as an Embodiment

> Q. You understood that the QuestObjects system described in the specification is
> simply one exemplary embodiment of the invention. True?
> A. Yes, I understand that it's one embodiment described in the patent itself.

Ex. C at 9:19-23.

> Q. As we've established today, sir, you many times in this report recognize that
> the QuestObjects system set forth in the patent is one exemplary embodiment. Fair?
> ***
> THE WITNESS: Yes, it's the example in all the patents.
> Q. All right. And that's the understanding you brought to – for your opinions in
> this case, right? It's an embodiment?
> A. **Yes** my understanding is that I read the description in the patents and used
> what's described in the patents to describe the claim language.

Id. at 20:15-21:3.

On Importing Embodiment Specific Detail Into the Claims

> Q. Sir, do you believe that it is proper to read the details of one exemplary
> embodiment into the patent claims themselves. Yes, no, or I don't know? ***
> THE WITNESS. Yes.

Id. at 31:1-7.

> Q. And indeed that's exactly what you did in your report, right, you looked at the
> details of the preferred embodiment and you read those details into the patent claims
> themselves. That's what you did? ***
> THE WITNESS. **I did that** in addition to applying, you know, like I said, my, my
> background and experience, and also thinking in light much terms of a person of
> skill at the time and how they would understand both the description and the claims
> as well.

Id. at 31:19-32:3 (emphasis added).

As set forth below, this expert limited the claim language—despite what the claims said—to

the details of the one embodiment. He did so consistently.

V.   THE QUERY MESSAGE TERMS.

Claim Terms	MasterObjects Proposal	Amazon Proposal
"the query messages represent the lengthening string as additional characters are being input by the user"	Plain and ordinary meaning. These terms are not limited to a message/string comprising	Each query message / request message / string representing an incomplete search query consists of only the changes to

('628 Patent Claim 13) "a request message containing a string representing an incomplete version of the search query" ('866 Patent Claim 1) "a string representing an incomplete search query" ('073 Patent Claim 1)	only the changes to an input string, and may include the entire input string.	the input string that were not sent in any previous consecutive query message / query / string representing an incomplete search query. This construction is not meant to change the meaning of requirements of the quoted claim language, other than to clarify that the query / request message / string representing an incomplete search query consists of only the changes.

The parties have a sharp dispute on what the claimed "query message" represents. Amazon contends that the language of the claims require that the client send only the changes in the client search bar, *i.e.*, send every added character separately as that character is typed. MasterObjects says that the claims explicitly define sending a full, lengthening query, not discombobulated separate characters. In prior disputes, *e.g.*, a PTAB IPR decision, *see* below, this was referred to as the "additional character issue," *e.g.*, do the claims mandate that only the additional and new characters be sent to the server system, as against sending the full lengthening string?

The disputed "Query Message" terms are new to the patents-in-suit (and '024 Patent). The new claims **say** what a Query Message is: it is a message sent from the client to the server that represents the lengthening string as the user types a search query. For some of the new claims, sending the full lengthening query is permissive; for other new claims, sending the full lengthening query is required. But there is nothing in any claim that requires the MasterObjects client to send only the changes to a query that were not previously sent to the server system. MasterObjects' invention is agnostic to the precise mechanics of what the client sends as a query; the points of novelty lay elsewhere.

A.   **The Plain Claim Language Describes a Client that Sends the "Lengthening String," Not "Only-the-Changes."**

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Claim construction begins "with the words of the claim[s]." *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002); *see also id.* ("'[T]he claim construction inquiry . . . begins and ends in all cases with the actual words of the claim'"). Asserted '628 Patent Claim 13 describes a "query message" as follows: "the client object that, while a user is providing **input comprising a lengthening string** of characters, **sends query messages** … whereby the **query messages represent the lengthening string** as additional characters are being input …". Ex. A. This claim says that the "query messages represent the lengthening string" that is being input by the user. This language cannot be read to mean that the query message must be restricted to only the changes in the input buffer. On its face, "represent the lengthening string" can include the entire string.

As for '073 Patent Claim 1, its plain language <u>requires</u> that the lengthening string itself is sent opposed to just the changes: "automatically **sending a string representing an incomplete search query** to a server system … receiving, by the server system, **the string**; **matching,** by the server system, **the string** to entries in a cache …". Ex. N. This claim states that the "string" sent represents the "incomplete search query." The claim then states that the server system looks for content by "matching" "the string." **If the query being sent is the query being "matched," then the query sent has to include the entire current input string.** If the string were just the changes to the input buffer, then the server system could not "match" this string. The server would have to glue the "only-the-changes" queries together to form a coherent string to search for content.

'866 Patent Claim 1 similarly describes the server system matching the contents of the request message, "the string," to entries in the cache to find content matching the request message's string: "sending a **request message containing a string representing an incomplete version of the search query** … receiving, by the server system, **the string**; **matching** by the server system, the string to entries in a cache … retrieving, by the server system, data indicative of the search results **matching the incomplete version of the search query**...". Ex. B. Since the server system

1   is searching content by "matching" server system content against the "string" received, that string

2   must be the incomplete sequential characters.

3   **B.   The Specification *Allows* but Does Not Require Sending Only Changes.**

4   The Specification accords.

5
     The Specification begins with an "Abstract" that reads: "[t]he invention provides a[n] …
6
     asynchronous … system for sending a **character-by-character string** … to … [a] server that can
7
     … return … information as the **client sends the string**." Ex. A. This "invention" statement is broad.
8
     If the user input goes from "a" to "abc," both a query message that is "bc," and a query message that
9
     is "abc," comprise "character-by-character strings."
10
          The Specification continues with a "Field of Invention" that describes a "session-based bi-
11
     directional multi-tier client-server asynchronous search and retrieval system." *Id*. at 1:27-32. The
12
     "Field" is silent as to the form of the message sent between the client and server. This is not
13
     surprising, as the invention as a whole is agnostic as to the form of this message. Sending only the
14
     changes is not a core feature of the invention. Sending only-the-changes is not akin to asynchrony,
15
     see Ex. A at Abstract, or providing "database information" as the user types. *See id.*
16
          The Specification then moves into a "Background of the Invention." This section does not
17
     describe sending the entire string as a prior art disadvantage. More, sending only-the-changes is not
18
     described as an advantage that overcomes a prior art disadvantage.
19
          The "Summary of the Invention" then opens by explaining that "[t]he invention provides a
20
     system that offers a highly effective solution to the aforementioned disadvantages … by providing a
21
     way to synchronize the data entered or displayed on a client system with the data on a server system."
22
     Id. at 6:9-13. There is no only-the-changes restriction here. If the input goes from "a" to "ab," the
23
     data can be synchronized by sending "ab" to the server or by sending just "b" to the server and gluing
24
     "b" to the previously received "a." The "Summary" then explains that "[t]he present invention may
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be incorporated in a variety of embodiments to suit a correspondingly wide variety of applications," *id*. at 6:22-24, and that "[i]n the [later] detailed description … the present invention is described with reference to a particular embodiment named QuestObjects." *Id*. at 7:24-26.

The "Detailed Description" opens with a broad statement that is reminiscent of the "Abstract," *id*. at 8:42-49, a statement that is reminiscent of the "Summary's" synchronization discussion, *id*. at 8:50-55; *see also id*. at 13:50-56, and a statement that "[t]he present invention is useful for an extremely wide variety of applications." *Id*. at 8:63-64. The Specification then moves into a multi-column "Glossary" of baroque terms which is preceded by the statement: "[i]n the detailed description below, an embodiment of the present invention is referred to as QuestObjects …." *Id*. at 9:66-67. This embodiment-specific glossary does not say that only-the-changes are sent; rather, it says that the "string" is sent. *See id*. at 10:47-48 ("used to tell the Server Quester to interpret **incoming strings**") & 10:60-61 (same).

The Optimized Language:

The Specification then discusses an embodiment specific optimization using capitalized terms:

> The terms "client" and "server" are used herein to reflect a specific embodiment of the invention …. The invention includes a **S**erver, that handles requests for information from clients, and a communication protocol that is **optimized for sending single characters** from a **C**lient to the **S**erver … **In one embodiment**, as the Server **receives a single character** from the Client …

Id. at 11:66-12:11. An optimization is a potential upgrade, not a required feature.

The Specification then, in the same paragraph, reenforces that the invention is agnostic as to the form of the message sent: "[g]enerally, **any process or mechanism that can send characters** and receive string lists can be considered a client of the system." *Id*. at 12:15-17. The Specification, in the very next paragraph, then provides an example of an entire string being sent (an "example" is of course non-limiting):

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> The system's protocol is not restricted to sending single characters … Clients can also use the protocol to send a string of characters. **For example**, when a user replaces the contents of an entry field with a new string, **the Client may then send the entire string all at once to the Server** ….

4   *Id*. at 12:21-26; *see also id*. at 12:66-13:4 ("use a communication protocol to send information,

5   including **but not limited to** single characters …).

6   The Specification then states that: "[i]n accordance with one embodiment … the system is

7   session-based, in that the server knows or recognizes when subsequent requests originate at the same

8   Client." *Id*. at 12:27-29. The Specification does not say that this embodiment requires a session-

9
10 based server to fuse together only-the-change messages to form lengthening strings. Even within

11 this "session-based" embodiment no limit is placed on the form of the message.

12 *The Express Query Message Language:*

13 The Specification then uses an exact term in dispute here, "query message," to describe a

14 message that contains an **entire string**, "ab," as opposed to only-the-change, "b:" "[a]n additional

15
16 character event is generated when the user has typed the second character 'b' … [T]he Server Quester

17 may … send the appropriate **query message 'ab'** to the Service." *Id*. at 19:25-30. This is the only

18 time the exact phrase "query message" appears in the '529, '024, '628 and '866 specification. While

19 this sentence describes a server sending a query to the service, the Specification says that a server

20 can be a client. *Id*. at 11:67-12:5 ("it will be evident to one skilled in the art that the invention may

21 be equally used with any implementation that requires communication between a first process or

22
23 application and a second process or application, regardless of whether these processes comprise a

24 typical client-server setup or not").

25 *The Allow Language:*

26 The Specification goes on to state that:

27   [T]he **C**lient **Q**uester uses the **C**lient **C**ontroller to send the new input buffer to the
        Server **Q**uester, so that a new query can be executed … To support this, the protocol
28   of the present invention provides a number of messages that ***allow*** the **C**lient **Q**uester

to send <u>just the changes</u> to the input buffer, ***instead of*** <u>sending the entire input buffer</u>.

Id. at 20:43-49. First, this description is embodiment specific. It uses capitalized QuestObjects'

Glossary defined terms.   Second, the words "allow" and "instead" make clear that, in one

optimization, the preferred embodiment may send just the changes "instead of sending the entire

input buffer." "Allow" means allow. It does not mean require. If my car is **allowed** to travel faster

than 65 MPH, this does not mean that it is always **required** to travel faster than 65 MPH. *See*

Continental Circuits LLC v. Intel Corp., 915 F.3d 788, 797 (Fed. Cir. 2019) (finding the phrase "the

present invention can be carried out by a new use" to not be clearly limiting). Embodiment specific

and permissive specification language does not limit the scope of the claims. *See Phillips v. AWH*

Corp., 415 F.3d 1303, 1323 (Fed. Cir. 2005) ("[A]lthough the specification often describes very

specific embodiments … we have repeatedly warned against confining the claims to those

embodiments"); *Teleflex*, 299 F.3d at 1326-27 (holding that there is no rule that where one

embodiment is described in the specification the embodiment's limitations are to be read into the

claims); *i4i Ltd. P'ship v. Microsoft Corp*., 598 F.3d 831, 844 (Fed. Cir. 2010) ("The specification's

permissive language … does not clearly disclaim ….").

<u>*Prior Cases:*</u>

This "additional character" issue has been fought through before. Three judges and a full

PTAB panel agreed that the term "query message" was **not** restricted to sending only the changes.

One judge disagreed, but based the Court's decision on very different claim language of a much

earlier and not-asserted patent.

<u>*eBay IPR (PTAB):*</u>

eBay, in an IPR involving the '024 Patent, advanced that the "query message" must be "limited

to messages whose search strings consist only of the changes to an input string rather than an entire input

string." The PTAB disagreed. The PTAB gave the term "query message" "its ordinary and customary

meaning." The PTAB found that "[n]othing in the terms 'query,' 'message,' or 'query message' indicates

1   sending only changes." *See* Ex. D at 11-14. Importantly, '024 Patent Claim 1 and here asserted '628

2   Claim 13 share the relevant "query message" limitation: "whereby the query messages represent the

3   lengthening string as additional characters are being input by the user." *Compare* Ex. E *with* Ex. A.

4   *Yahoo! and eBay*

5   In prior Yahoo! and eBay cases, both Courts construed the claim language of earlier patents not

6   to require sending only the changes. That is, even absent the very clear "query message" language, these

7   Courts saw no support for reading an "additional characters" restriction into the claims.

8   *Meta Platforms (Facebook) (Judge Albright):*

9   More recently, and with respect to each Query Message term and patent now in dispute, Meta

10   Platforms argued that "[e]ach query consists of only the changes to the input string that were not sent

11   in any previous consecutive query." Ex. F. Judge Albright disagreed and adopted MasterObjects'

12   here proposed construction. *See* Ex. G.

13   *Google (Judge Hamilton):*

14   In an earlier Google case, addressing the MasterObjects '529 patent, Judge Hamilton of N.D.

15   Cal. read the '529 claims as requiring sending only the changes. In so concluding, the Court relied

16   heavily on the '529 claim language, which discussed lengthening the string <u>on the server side</u>, and

17   adding additional characters. For example, the '529 claim said: "wherein each of the corresponding

18   consecutive queries lengthens the string by the additional characters, to **form** a lengthening string

19   for retrieving matching content from the server system." Ex. H, '529 Claim 1. More, the '529 claims

20   recited: "wherein the server object in response to receiving **each** of the corresponding consecutive

21   queries that **modify the lengthening string**, automatically **uses the lengthening string to query** …

22   the content-based cache …". None of this "additional character" language is in the asserted patents.

23   Instead, the asserted claims refer to "query messages," "a request message," or "a string," and the '073

24   and '866 expressly describe what is sent as what is matched. *See* above.

25   **VI.   THE CLIENT OBJECT TERM.**

Claim Term	MasterObjects Proposal	Amazon Proposal
"the client object that, while a user is providing input comprising a lengthening string of characters, sends query messages to the server system" ('628 Patent Claim 13)	This term is not a 35 U.S.C. § 112(6) means-plus-function term. To the extent the Court finds that this term is subject to 35 U.S.C. § 112(6), MasterObjects describes the function and corresponding structure below: Function: sends query messages to the server system and receives return messages from the server system. Structure (which is adequately described by the specification): a software component or function located on a client computer that includes at least an input buffer that captures input from software accessing the claimed system, and which is associated with at least: (1) software at the client computer that accesses the claimed system, by, for example, a graphical user interface; (2) software at the server system—through a communication protocol—configured to receive at least query messages from the client object; and (3) a communication protocol, which the client object uses to communicate with the server system, by, for example, sending query messages to the server system (and equivalents thereof).	This claim term is governed by 35 U.S.C. § 112(6). Thus, this term should be construed to cover the corresponding structure, material or acts described in the specification, and equivalents thereof. The disclosed structure is: '628 Patent at 20:45-55.

Amazon argues that the Client Object Term is a means-plus-function term governed by 35 U.S.C. § 112(6). Amazon does not contend the term is indefinite. Instead, Amazon contends that the term should be construed to cover the structure identified by the "just the changes" Specification passage at column 20, lines 45 to 55.

Amazon's intent is plain: it expects to lose the "additional character" argument, and so seeks another opportunity to read an "additional character" limitation into the claims. The language of the patents and the Specification are otherwise, however. The Client Object Term is not a means-plus-function term. And, even if otherwise, the disclosed structure is broad enough to encompass both sending only-the-changes and sending the entire extant string.

A.   The Client Object Term is Not a Means-Plus-Function Term.

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1   Since the Client Object Term does not use the word "means," it is presumed that Section

2   112(6) does not apply. Amazon must overcome this presumption by "'demonstrat[ing] that the

3   claim term fails to recite sufficiently definite structure or else recites function without reciting

4   sufficient structure for performing that function.'" *See Zeroclick, LLC v. Apple Inc.*, 891 F.3d

5   1003, 1007 (Fed. Cir. 2018). This Amazon cannot do.

6
     First, Amazon's conduct evidences its belief that this is not a 112(6) term. In its June 2021

7   PLR 4-1 disclosure, it identified two different "Client Object" terms. It identified one as governed

8   by Section 112(6) and the other—the term at issue here—as not. *See* Ex. I at 5. In its November

9
     PLR 4-1 disclosure Amazon failed to include the Client Object Term at all. *See* Ex. P. On November

10   16, 2021, very belatedly in the process, Amazon reversed course and flagged its current 112(6)

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     argument by casual email.

12
     Second, Amazon has waived this argument. Its invalidity contentions, which it amended as

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     recently as November 22, 2021, do not make the required 112(6) disclosure. *See, e.g.*, Ex. J; *see also*

14
     PLR 3-3 (c) ("for each limitation that such party contends is governed by [Section] 112(6), the

15
     identity of the structure(s) … in each item of prior art …"). For example, rather than identify a

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     function and prior art structure for its recently added Lotus reference, Amazon merely cites the Lotus

17
     Notes client's operation: "Lotus Notes discloses the Client Object … as shown by the operation of the

18
     Notes Client …. while a user types a recipient's name … the **Notes Client sends** type-ahead requests

19
     queries (*query messages*) …." Ex. J at Lotus Notes, 13[b]. Amazon cannot now contend that the

20
     claim's recitation of a "Client Object" is a means-plus-function claim.

21
22   Third, '628 Patent Claim 13's plain language imparts structure to the term, as it references

23   an "object." The phrase "object" connotes structure. As a dictionary produced by Amazon

24   elucidates, an "object" is "[a] term loosely used to describe an identifiable component of a software

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     system or design, now more commonly applied to a component that is in some sense self-contained,

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PL.'S OPENING CLAIMS CONSTRUCTION BRIEF   – 13 –   Case No. 3:20-cv-08103-WHA

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having an identifiable boundary ….” Ex. K. The Specification also describes an object as a known

entity to a person of skill. *See, e.g.*, Ex. A at 5:1-5:3 (“WebObjects uses object orientated frameworks

that allow distribution of application logic between server and client);” 13:39-47 (“[A] user interface

element that uses the present invention is referred to as a ‘Questlet.’ … A Questlet is always

associated with at least one Client Quester 203. **Questers are objects** that tie a QuestObjects input

buffer …”). This is not an imaginary word; it is not a black box. *See Collaborative Agreements,*

LLC v. Adobe Sys. Inc., No. 15-cv-03853-EMC, 2015 WL 7753293, at *4 (N.D. Cal. Dec. 2, 2015);

id. at *6 (“‘code segment’ has some structural meaning, as supported by the dictionary definition …;

code segment is not a nonce word”).

The claim also says that the “object” is on the “client” computer. This denotes further

structure. *See Free Stream Media Corp. v. Alphonso Inc*., No. 2:15-CV-1725-RWS, 2017 WL

1165578, at *24 (E.D. Tex. Mar. 29, 2017); *id*. at *25 (“the use of the word “client” in conjunction

with the word “device” places an additional functional constraint ….’”).

More, the claim describes the client object’s operation and interaction with other components

with specificity that provide additional structure: the client object receives user input and does this

while the user is typing: “the client object that, while a user is providing input …;” the client object

interacts with the server system: “sends query messages to the server,” “the server … send[s] return

messages;” and the client object’s server communications are over a network and asynchronous: “the

server system receiving and asynchronously responding … over a network.” *See Finjan Inc. v.*

Proofpoint, Inc., No. 13-cv-05808-HSG, 2015 WL 7770208, *11 (N.D. Cal. Dec. 3, 2015) (“Claim

1 describes how the ‘content processor’ interacts with the invention’s other components … which

informs the term’s structural character”); *Free Stream*, 2017 WL 1165578, at *31 (“By reciting the

objectives of the ‘instructions ... configured to,’ and how the code operates within the context of the

claimed invention, the claim language connotes sufficiently definite structure …”); *Collaborative*

1   *Agreements*, 2015 WL 7753293, at *6.

2   A client object is a software component—it is a software component on a client computer

3   that operates asynchronously over a network to interact with a server system while a user provides

4

5   input. The Client Object term is not a structureless black box, as Amazon itself repeatedly recognized

6   in its Patent Local Rules disclosures.

7   **B.   Even if the Client Object Term is a Means-Plus-Function Term, Amazon's**
            Identified Structure is Wrong.

8

9   The Specification adequately ties the client object's function to structure. The Specification

10 discloses that the client object receives input from the user interface. *See, e.g.*, Ex. A 13:20-23;

11 13:34-47; 20:24-36; 26:18-28. This input goes into an input buffer maintained by the client object.

12 *See, e.g., id.* 19:5-13; 20:29-36; 24:10-19. The Specification further discloses that a client object

13 component communicates with the server system and together they "implement the network

14 communication protocol …". *See, e.g., id.* 14:1-5; 25:57-59; 26:18-28. This protocol is used by a

15 client object component to synchronize the data entered on the client with the data on the server

16 system. *See, e.g., id.* 19:13-15; 30:46-55. (The client object also receives results data from the server

17 system. *See, e.g., id.* 19:15-18.)

18

19   A client object ensures that the server system is updated while a user types. The Specification

20 describes client object components to do exactly this. The specific format of the message the client

21 object uses to update the server system is but an implementation detail and that message is addressed

22 by a different claim term (query message). The claims are agnostic as to the form of the query

23 message. *See* above.

24

25   In any event, as previously explained, the Specification specifically describes a query

26 message in the full extant string form: "Server Quester may … send the appropriate query message

27 'ab' to the Service." Ex. A at 19:28-30. Amazon cannot adequately explain why this disclosure

28 should be disregarded just because it is in the server-service context. *See, e.g., id.*, 13:47-49

("Questers exist on both the Client and Server, in which case they are referred to as a Client Quester and a Server Quester").

VII.   THE ASYNCHRONOUSLY TERMS.

Claim Terms	MasterObjects Proposal	Amazon Proposal
"the server system receiving and asynchronously responding to the query messages from the Client Object over a network" ('628 Patent Claim 13)	"asynchronously:" each side of the communication is free to communicate without waiting for the other side. Plain and ordinary meaning as to the remainder (with the exception of "query messages" and "Client Object," which are briefed elsewhere).	Both the Client Object /client computer and the server system can initiate communications at any moment in time. This construction is not meant to change the meaning of requirements of the quoted claim language, other than to clarify the meaning of the term "asynchronously."
"asynchronously sending, by the server system to the client computer a message" ('866 Patent Claim 1)		
"asynchronously receiving, on the client computer, without loading another web page and while the user is entering the content search query into the field, the message" ('073 Patent Claim 1)		

The claims say that the client and server communicate asynchronously. That is, the server does not have to wait for a complete search query before responding to the client. Instead, the client and server can communicate asynchronously, without each waiting for the other, even as a user types a search query. This is the difference between a walkie-talkie ("over and out") and a phone where people can interrupt even as their counter-party speaks.

Amazon contends that the term "asynchronously" imposes a limitation that requires the server to be able to "initiate" (i.e., start or begin) the communication. MasterObjects respectfully disagrees. The "asynchronously" terms are not about who starts the communication. Rather, the "asynchronously" terms describe how the communication is conducted once it has begun. Synchronous communication is like a walkie-talkie—each side takes turns, waiting for the other side to say "over" before beginning to speak. Conversely, asynchronous communication is non-blocking—each side can communicate without waiting for the other side to finish. *See, e.g.,*

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MasterObjects, Inc. v. eBay, Inc., No. 3:12-cv-680 JSC, 2013 WL 1287428, at *3 (N.D. Cal. Mar. 28, 2013) (an asynchronous connection "must allow one side of the communication to communicate with the other side at the same time, that is, like telephones rather than walkie talkies").

MasterObjects' construction is supported by the intrinsic and extrinsic evidence. The claims describe a situation in which "the client object…sends query messages to the server system" and then "the server system…send[s] return messages to the client object." *See, e.g.*, Ex. A, Claim 13. These claims do not require the client or server system to wait its turn; each is free to send messages on its own timetable. The claims also do not require the messages to be sent or received in any particular order. *See* Ex. D (*eBay IPR* Decision to Institute) at 10 ("'[A]synchronous' also encompasses communications that are initiated 'out of order'"). As such, some non-asserted claims say "the client object checks the usability of the results of the one of the return messages …" to ensure that the client does not display out-of-date results to the user. *See, e.g.*, Ex. A, Claim 1. The impetus for this usability test is the asynchronous nature of the communication, in which both sides are free to communicate without waiting for the other side.

The Specification describes examples of this asynchronous process in more detail. "Tasks that clients execute on the system are non-blocking … [A] communication initiated by the Client may be a single character that is sent to the Server, which responds by returning appropriate data. … As information changes in the database, the Server sends an updated version of that information to the Client." *See, e.g.*, Ex. A at 12:44-54; *see also id.* at 24:4-9 ("[T]he system is asynchronous and on occasions it may occur that a newer QuestObjects Result Set is sent to the client before an older one. The request identifier and QuestObjects Result Set identifier allow the Client Quester to detect and handle this").

That this is the ordinary meaning of "asynchronous" to one skilled in the art is further supported by extrinsic definitions in technical dictionaries:

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• Asynchronous *adj.*: "Pertaining to, being, or characteristic of something that is not dependent on timing. For example, asynchronous communications can start and stop at any time instead of having to match the timing governed by a clock." Ex. L.

• Asynchronous communications *n.*: "Computer-to-computer communications in which the sending and receiving computers do not rely on timing as a means of determining where transmissions begin and end." *Id.*

• Asynchronous: "To communicate without external timing and to have each communicating device work at its own speed. People talk asynchronously. Even though one person talks very fast and another very slowly, their brains still receive the conveyed messages and respond. Modems and FAX machines are asynchronous." Ex. M.

None of these definitions supports Amazon's proposed construction. They show that "asynchronously" has nothing to do with who initiated the communication by sending the first message. Rather, a communication is "asynchronous" if both sides are free to talk without relying on a clock or other coordination mechanism to synchronize their communications with one another.

The same claim construction dispute has been litigated in four prior cases. In each prior case, the defendant took the same position Amazon now takes, proposing a construction that required the server to be able to "initiate" the communication. In three of those four cases, the Court expressly rejected the defendant's proposed construction. *See eBay*, 2013 WL 1287428 at *2-7; *MasterObjects, Inc. v. Yahoo!, Inc.*, No. C11-02539 JSW, 2013 WL 6185475 (N.D. Cal. Nov. 26, 2013), at * 3-5; Exs. F & G (*Meta Platforms*). In the fourth case, the Court accepted the defendant's construction, but did not limit the claims to require the server to be able to initiate communications (as Amazon now proposes), but rather held that the claims were broad enough to allow server-

initiated communications (this is consistent with MasterObjects' construction).[2] *See MasterObjects, Inc. v. Google, Inc.*, No. C 11-1054 PJH, 2013 WL 2319087 at *5 (N.D. Cal. Apr. 20, 2015) ("the claimed invention covers both client-initiated and server-initiated communications").

In the *eBay* case, Judge Corley rejected eBay's proposal that "asynchronous connection" means "[a] connection that allows one side of the communication to initiate communications at the same time as the other side at any moment in time within a session." *eBay*, 2013 WL 12874287 at *2. The eBay Court:

• Began its analysis with the plain language of the claims, observing that none of the claims state or imply that the server sends the first message, *id.* at *3;

• Then turned to the specification and held that "the 'initiate communication' function is one possible embodiment of the patents rather than a limitation on the claims," *id.* at *5;

• Then turned to the prosecution history where it found that the history was "consistent with the specification's description of having the server initiate a communication as one possible application of the invention rather than a limitation," *id.* at *7; and

• Then concluded that "the ordinary meaning of the language of the claims … does not include the limitation that the server initiate communications with the client …." *Id.* at *7.

The same reasoning is equally applicable to all the claims at issue here. For example, '628 Claim 13 says "the client object…sends query messages to the server system" and "the server system…send[s] return messages to the client object." Ex. A. All of the claims that use the term

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[2] In the *eBay IPR*, the parties disputed the meaning of "asynchronous[ly]," but neither argued that the server is required to initiate the communication. In its decision to institute, the PTAB remarked that "'asynchronous' refers to the capability of initiating communications at any moment in time" and stated that "we determine that the term 'asynchronous' encompasses communications that are initiated 'at any moment in time.'" Although the PTAB used the word "initiating" in this description, it did not hold that the server is required to be able to initiate the communication. Rather, the PTAB placed no requirements on who initiates the communication, and specifically included an example in which the client initiates the communication ("a server receives queries") and the server responds. *See* Ex. D at 9-10. This is consistent with MasterObjects' proposed construction and inconsistent with Amazon's, which would require the server to be able to initiate.

"asynchronously" are the same in this respect, *i.e.*, all describe the client initiating the communication, and none require the server to initiate any communication. *See* Exs. A ('628), Claim 13; N ('073), Claim 1; B ('866), Claim 1. The fact that some embodiments may allow the server to initiate communication does not limit the ordinary meaning of these claims. *See, e.g., Kara Tech., Inc. v. Stamps.com, Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009) ("The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment"); *Phillips*, 415 F.3d at 1323.

Further, nothing in the specifications or the prosecution history is a disavowal. *See, e.g.,* Ex. A at 12:40-51 (which is identical to a '529 passage the *eBay* Court found non-limiting. *See eBay*, 2013 WL 1287428 at *3-6. There are no "expressions of manifest exclusion or restriction" that would give rise to a disclaimer or express definition, and as such MasterObjects "is entitled to the full scope of its claim language." *See Thorner*, 669 F.3d at 1366; *see also eBay*, 2013 WL 1287428 at *6 ("The Court does not find an unambiguous disavowal").

The *Yahoo!* Court's decision accords with that of the *eBay* Court. Yahoo! argued that "asynchronous connection" means "a connection that allows either side of the communication to initiate communications at any moment in time within a session." *Yahoo!*, 2013 WL 6185475 at *3. Judge White applied essentially the same reasoning as Judge Corley and came to the same conclusion: "the Court finds the language cited by Yahoo! only to refer to a limitation of a specific embodiment, the QuestObjects system. … MasterObjects does not argue that their invention is distinguishable because the server can initiate a communication with the client. Rather, MasterObjects makes clear that an asynchronous connection can have a server initiate communications." *Id*. at *4-5.

More recently, and with respect to the claims in dispute here, Meta Platforms proposed that "asynchronously" be construed to mean "[b]oth the client and the server can initiate communications

1   at any moment in time." Ex. F. Judge Albright rejected Meta Platform's proposal and adopted

2   MasterObjects' here proposed construction. *See* Ex. G.

3   In sum, all the claims at issue describe the client as initiating the communication, and none

4   of these claims state or imply that the server must initiate the communication. As described in certain

5   embodiments in the specification and prosecution history, the server system is <u>permitted</u> to initiate

6   communication, but it is never <u>required</u> to do so. As such, these embodiments do not limit or narrow

7   the claims to <u>require</u> the server system to be capable of initiating communication. Amazon's

8   construction, which is designed to import such a requirement into the claims, should therefore be

10   rejected.

11   **VIII.   THE CACHE AND CONTENT SOURCE TERMS.**

12

Claim Terms	MasterObjects Proposal	Amazon's Proposal
"the server system caches query results and subsequently determines results by looking up the query in said cache so that [the server system] can avoid performing a query for the same input on a data source or looking up said query in a second cache" '628 Patent Claim 13	"Caches query results:" saves query results through a cache; "Cache:" a memory store; "Data source:" an underlying data source; The remainder: plain and ordinary meaning; and This term is not limited to a system that can, if no matching cache entry is found, query another content source.	"the server system saves a copy of the query result set retrieved in response to the query message and determines responses to later query messages by checking whether result sets responsive to those later query messages are present in its store of previously saved query result sets before querying a separate data source or a second cache" This claim requires that the claimed system be able to obtain query result sets from sources other than the store of query result sets previously saved by the server system.
"matching, by the server system, the string to entries in a cache of queries and search results previously retrieved from one or more content sources" ('866 Patent Claim 1)	"Cache:" a memory store; "Content source:" a data source on a server system that provides data to the system; The remainder: plain and ordinary meaning; and	"matching, by the server system, the string to entries in a store of previous strings representing incomplete search queries and corresponding search result sets previously retrieved from one or more separate content sources in response to those previous incomplete query strings"

	This term is not limited to a process that can, if no matching cache entry is found, query another content source.	This claim requires that the claimed system be able to obtain query result sets from sources other than the store of query result sets previously saved by the server system.
"matching, by the server system, the string to entries in a cache of query strings and search results based on content queries received from multiple users whereby cached search results contain a subset of data from one or more content sources" ('073 Patent Claim 1)	"Cache:" a memory store; "Cached search results:" said cache's search results; "Content sources:" a data source on a server system that provides data to the system; The remainder: plain and ordinary meaning; and This term is not limited to a process that can, if no matching cache entry is found, query another content source.	"matching, by the server system, the string to entries in a store of previous strings representing incomplete search queries and corresponding search result sets previously retrieved from one or more separate content sources in response to those previous incomplete query strings received from multiple users." This claim requires that the claimed system be able to obtain query result sets from sources other than the store of query result sets previously saved by the server system.

The patents generally claim the use of a cache containing prior queries and results, *e.g.*, "Rol = Rolex." The purpose of the cache is to accelerate processing by avoiding repeated organic searches for each query. The patents claim such a cache broadly.

For its part, Amazon insists that the plain claim language requires that the system has to be able to obtain query results sets from sources **other** than the cache. *See* table above.

This is not what the claims say. Amazon, and its expert Donald Turnbull, are taking several potential optimizations of the preferred embodiment, QuestObjects, and reading them into the claims.

Dr. Turnbull explicitly so admitted. *See* above. More, Turnbull's expert report makes this plain. Turnbull begins by creating a new definition of a cache: it must not preexist the search, must be "built-on-the-fly," and must exist for a very short time. To quote that report:

Attributes that a POSITA would automatically associate with a cache are: (1) it is

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a temporary file or set of files that speeds up requests for information by storing frequently accessed information in a more accessible location; (2) it sits between a requester and a location storing information, to help respond to requests that would otherwise go to the storage location; (3) it is built on-the-fly during the processing of the requests to that storage location and, as such, must be machine-writable; and (4) the information therein typically has an expiration date or time, because cached information may become less useful over time.

Ex. O (December 14, 2021 Turnbull Report) at 40:11-17.

Dr. Turnbull never explains where nor why these narrow restrictions are inherent in the word cache. And these restrictions are **not** found in the Computer Science dictionaries for the word cache, as Turnbull conceded. (Dr. Turnbull retracted several of these requirements at deposition. *See* Ex. C (Turnbull Rough Dep. Tr.) at 54:5-7 (a cache built yesterday is still a cache today), and 60:12-14 (no time limit on when a cache needs to be refreshed)).

For the requisite second search step, Turnbull is explicitly relying on embodiment specific detail: that is exactly what he says. *See* Ex. O (Turnbull Report) at 41:13-28 (quoting embodiment specific detail and optimizations).

In fact, Dr. Turnbull's manufactured second search step directly contradicts the terms of the claims themselves. For example, Claim 13 of the '628 patent says that the cache is used "so that it [the system] can avoid performing a query for the same input on a data source or looking up said query in a second cache." This language is not ambiguous. And it says exactly the contrary of Amazon's new cache constructions.

MasterObjects' cache constructions largely rely on the plain meaning of the claim terms. A "content source" is just that: a source of content. These are neither esoteric nor complex terms, and a jury would understand the language as used.

IX.   CONCLUSION.

For the foregoing reasons, MasterObjects respectfully requests that the Court enter MasterObjects' proposed constructions.

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